ELECTRONICS INSTALLATION GUIDE

TOYOTA LAND CRUISER (2024-ON)

FACTORY RACE SERIES 3.2 LIVE VALVE

803-02-294 Kit: ECU/IMU Assembly, Mounting Hardware, 24-ON Land Cruiser 250, Connected Suspension

605-01-462 REV A

FOX products are subject to continuous development and improvement. For the latest product information, including installation manuals, videos, and FAQs please visit:

tech.ridefox.com/manuals

To locate the correct installation manual, use the 8-digit part number found on the end of the packaging box (see illustration below):



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INTRODUCTION

Thank you for choosing FOX direct-replacement shocks for your vehicle. FOX products are designed, tested, and manufactured by the finest professionals in the industry.

FOX recommends that you become completely familiar with the handling characteristics of your modified vehicle before operating it under rigorous conditions, helping to avoid potential rollover situations and other loss of control events. FOX further recommends that you use appropriate protective equipment at all times when operating your vehicle.

To achieve the best performance and product longevity, periodic service and maintenance is required. Please refer to the Maintenance and Warranty Information section for more information.

TOOLS NEEDED

- Socket and/or wrench set
- Screwdriver set
- T50 Torx Bit
- 8" or longer extension bar for socket wrench
- Plastic trim/fastener removal tools
- Flush cuts
- Silicone seal (Optional)

SUPPLIED PARTS

WARNING: Cancer and reproductive harm - www.P65Warning.ca.gov

803-02-294: ELECTRONICS KIT			
FOX PN	**DESCRIPTION**	**QTY**	**NOTES**
026-01-425	MOUNTING HARDWARE: 24-ON LC250 ECU/DCM BRACKET	1	MATES WITH 218-02-070 AND 026-01-426, 026-01-427
026-01-428	MOUNTING HARDWARE: 24-ON LC250 IMU BRACKET	1	MATES WITH 218-02-036
803-02-295	KIT: ECU ASSEMBLY	N/A	
218-02-070	ELECTRONIC PART: ECU, FOX CONTROLLER 8-VALVE, IP6K9K	1	MATES WITH 026-01-425
803-02-245	KIT: CABLE HARNESS ASSEMBLY, MOUNTING HARDWARE	N/A	
026-00-012	MOUNTING HARDWARE: CABLE TIE, .19" WIDTH X 11" LENGTH, BLACK	80	SECURES CABLE HARNESS
026-01-298	MOUNTING HARDWARE: RUBBER PUSH-IN GROMMET, UNIVERSAL FIREWALL BOOT, FOR 1.250" HOLE, 0.0747" THK PLATE, BLACK	2	MATES WITH 026-01-316
026-01-316	MOUNTING HARDWARE: RUBBER PUSH-IN GROMMET, FOR 1-3/4" HOLE, 1/8" THK PLATE, BLACK	2	MATES WITH 026-01-298
218-02-068	CONNECTED SUSPENSION: TRUCK, VEHICLE CAN READER HARNESS	1	
218-02-052	CONNECTED SUSPENSION: TRUCK, CAN HARNESS	1	MATES WITH 218-02-121
218-02-121	CONNECTED SUSPENSION: TOYOTA, 3CS MAIN HARNESS, SINGLE VALVE	1	MATES WITH 218-02-052
218-02-102	ELECTRONIC PART: DUST CAP, ATM SERIES 8-RECEPTACLE	1	PLUGS UNUSED CONNECTOR ON 218-02-121
218-02-103	ELECTRONIC PART: DUST CAP, JST 4-PIN	1	PLUGS UNUSED CONNECTOR ON 218-02-052
803-04-388	KIT: RAM MOUNT, B-SIZE BASE, ARM, AND 1/4-20 STUD	1	SECURES 803-34-006 TO VEHICLE
803-02-246	KIT: IMU ASSEMBLY, MOUNTING HARDWARE, GEN 1 CONTROLLER, GENERIC	N/A	
218-02-036	ELECTRONIC PART: IMU	1	MATES WITH 026-01-428
019-01-247	FASTENER, STANDARD (METRIC): WASHER [M6, 6.4MM ID X 11MM OD X 1.6MM THK], 18-8 STAINLESS	6	SECURES ECU/IMU TO MATING BRACKETS
019-00-030	FASTENER, STANDARD (METRIC): NUT [M6 X 1.0] NYLON LOCKING, CLASS 8, ZINC PLATED	6	SECURES ECU/IMU TO MATING BRACKETS

Continued on next page

SUPPLIED PARTS

ELECTRONICS KIT			
FOX PN	**DESCRIPTION**	**QTY**	**NOTES**
803-02-315	KIT: ORAM WIRELESS MODE SELECTOR ASSEMBLY	N/A	
803-34-006	KIT: CONNECTED SUSPENSION MODE SELECTOR, ORAM, WIRELESS	1	MATES WITH 803-04-388
803-02-297	KIT: ECU MOUNTING HARDWARE, 24-ON LAND CRUISER 250, CONNECTED SUSPENSION	N/A	
019-00-030	FASTENER, STANDARD (METRIC): NUT [M6 X 1.0] NYLON LOCKING, CLASS 8, ZINC PLATED	8	SECURES ECU TO MATING BRACKET
019-01-247	FASTENER, STANDARD (METRIC): WASHER [M6, 6.4MM ID X 11MM OD X 1.6MM THK], 18-8 STAINLESS	8	SECURES ECU TO MATING BRACKET
019-01-103	FASTENER, STANDARD (METRIC): [M6 X 1, 16MM LONG] 18-8 SS, BUTTON HEAD, SOCKET CAP	4	
026-01-426	MOUNTING HARDWARE: 24-ON LC250, ECU BRACKET, LEFT	1	
026-01-427	MOUNTING HARDWARE: 24-ON LC250, ECU BRACKET, RIGHT	1	

⚠ WARNING

SAFETY INSTRUCTIONS

- FOX direct-replacement shocks are designed to fit and allow proper clearance with the stock suspension. If aftermarket suspension components are installed, it is the customer's responsibility to ensure that interference between the FOX shocks and other vehicle components does not occur at any point in the shock stroke.
- FOX direct-replacement shocks should always be installed as a set for maximum performance.
- Proper installation and service procedures are essential for the safe and reliable operation of the suspension components, requiring the experience and tools specially designed for this purpose. Installation and maintenance procedures for this product must be performed by a qualified service technician to avoid potentially unsafe vehicle handling characteristics, which may result in SERIOUS INJURY or DEATH.
- Modifying your vehicle's suspension will change the handling characteristics of your vehicle. Under certain conditions, your modified vehicle may be more susceptible to loss of control or rollover, which can result in SERIOUS INJURY or DEATH. Thoroughly familiarize yourself with the modified vehicle handling characteristics before any rigorous vehicle operation. Wear protective body gear and a helmet when appropriate. Installation of vehicle roll bars or cage is highly recommended.
- FOX direct-replacement shocks are gas-charged and highly pressurized. Placing shocks in a vise or clamp, applying heat, or attempting to open or service the shock without the proper tools and training can result in SERIOUS INJURY or DEATH. Do not attempt to modify, puncture or incinerate a FOX direct-replacement shock absorber.
- Any attempt to misuse, misapply, modify, or tamper with any FOX product voids any warranty and may result in SERIOUS INJURY or DEATH.

CENTER CONSOLE REMOVAL

1. Slide the front seats all the way forward. Remove the rear seat mounting bolts (Fig. 1).
2. While the seats are forward, use a trim tool or screwdriver to separate the rear seat HVAC control panel (Fig. 2).
3. Slide the seats all the way to the rear (the seats will be removed in a later step).
4. Disconnect the ground cable on the vehicle's battery.
5. Remove both of the center console side panels by pulling them towards the doors (Fig. 3).



Fig. 1: Remove seat rear bolts



Fig. 2: Separate rear HVAC panel



Fig. 3: Remove side panels

6. Pull the shift boot straight down (Fig. 4).
7. Use a screwdriver or pick to move the clip away from the shifter, then pull straight up on the knob to remove it (Fig 5).



Fig. 4: Pull shift boot down


Fig. 5: Move clip to remove shift knob.

8. Use a trim tool or screwdriver to lift and un-clip the rear of the plastic shifter trim. Pull straight up to release the rest of the clips. (Fig. 6)
9. Disconnect the 3 electrical connectors on the bottom of the plastic shifter trim. (Fig. 7)
10. Pull the drive mode selector straight towards you to release the clips. (Fig. 8)



Fig. 6: Lift shifter trim



Fig. 7: Disconnect electrical connectors



Fig. 8: Remove the drive mode selector

11. Disconnect the electrical connector on the back of the drive mode selector. (Fig. 9)
12. Pull up on the rear of the main center console plastic to release the rear clips. Then pull the whole piece towards the rear of the truck to release the front clips. (Fig. 10)
13. Disconnect the electrical connector for the phone charger. (Fig. 11)



Fig. 9 Disconnect the drive mode selector


Fig. 10: Remove console main plastic piece


Fig. 11: Disconnect wireless phone charger

14. Pull the rear seat HVAC control panel off. Remove the 3 screws that mount the center console body. (Fig. 12)
15. Remove the 4 electrical connectors from the HVAC control panel. (Fig. 13)
16. Remove the 2 screws at the front of the center console body. (Fig. 14)



Fig. 12: Remove rear HVAC control panel



Fig. 13: Disconnect HVAC panel



Fig. 14: Remove 2 front screws from console body

17. Remove the 4 screws from the middle of the center console body. (Fig. 15)
18. Slide the center console body towards the rear of the truck to release the front tabs, then lift the front and tilt the whole console body 90 degrees until it is stood upright (Fig. 16)

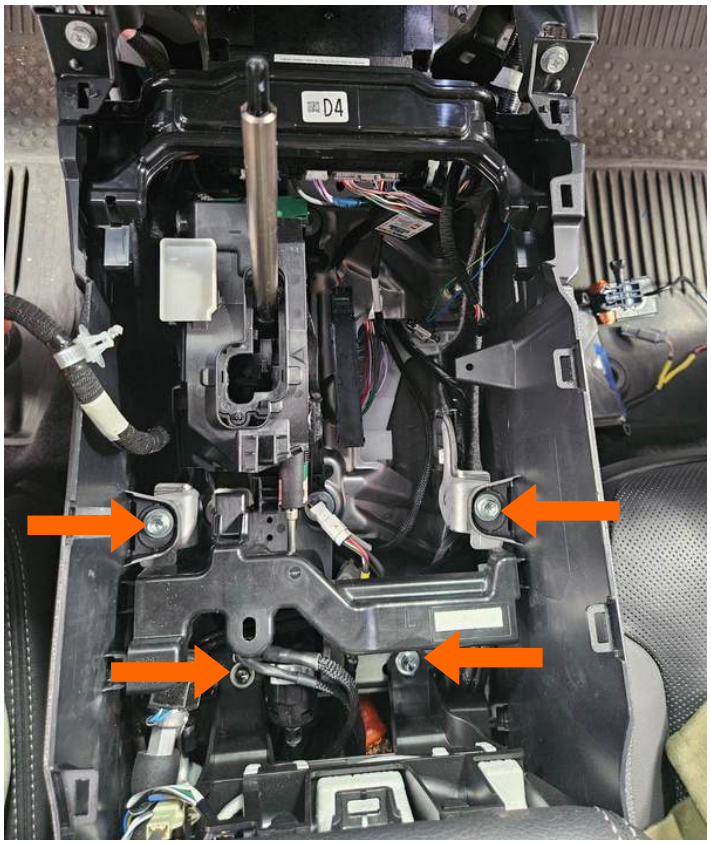


Fig. 15: Remove 4 center screws



Fig. 16: Tilt center console

19. Remove the front bolts that fasten the seat to the floor. (Fig. 17)
20. Tilt the seat back and unplug the electrical connectors under the seat. (Fig. 18)
21. Remove the seat. Repeat on the other side of the vehicle.

NOTE: Steps 22-25 are for hybrid models only.



Fig. 17: Remove front seat bolts

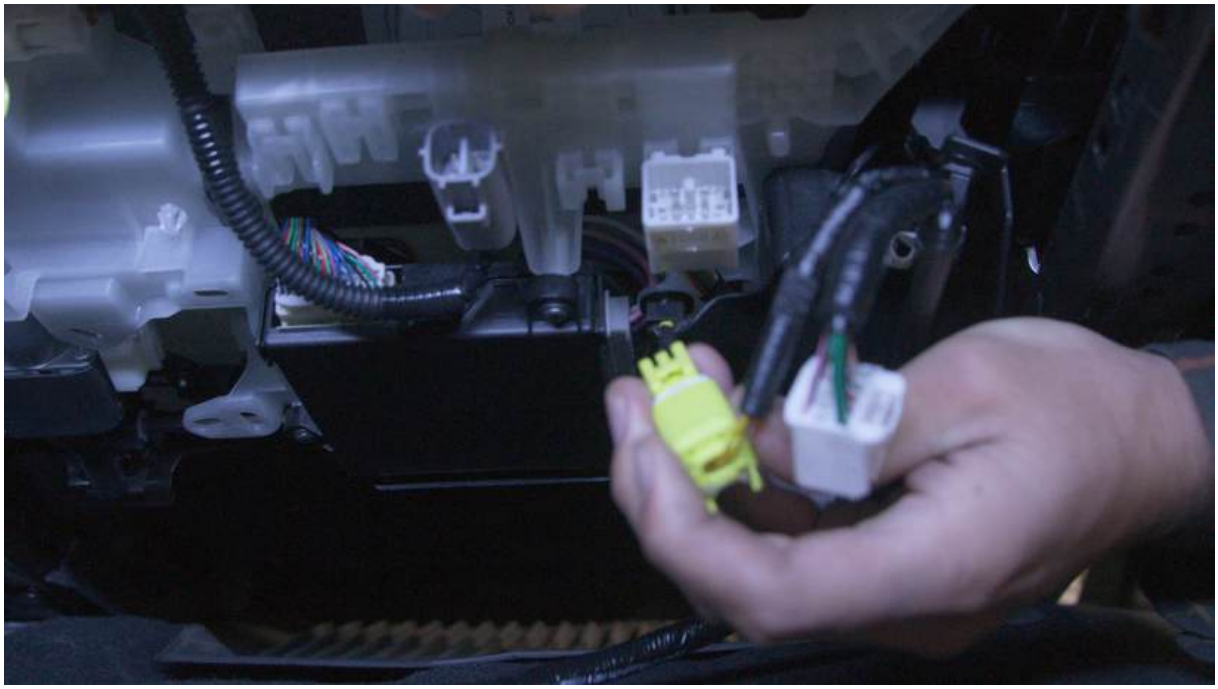


Fig. 18: Disconnect under seat electrical connectors

22. Remove the door sill panels for the driver front, (Fig. 19) passenger front, and driver rear door (Fig. 20). Use a screwdriver or trim tool to pry up on the edge of the panel, then pull up. Unplug the connector for the sill light.



Fig. 19: Remove front door sill trim



Fig. 20: Remove rear door sill trim

23. Flip the rear seats forward, then remove the rear left seat belt bolt cover (Fig. 21) with a screwdriver. Loosen and remove the lower seat belt bolt (Fig. 22).



Fig. 21: Remove seatbelt plastic



Fig. 22: Remove seatbelt bolt

24. Flip up the plastic covers (Fig. 23), then loosen the plastic nut that holds the cargo trim (Fig. 24). Lift up the cargo trim (Fig. 25). The wire harness will be routed here in a later step.

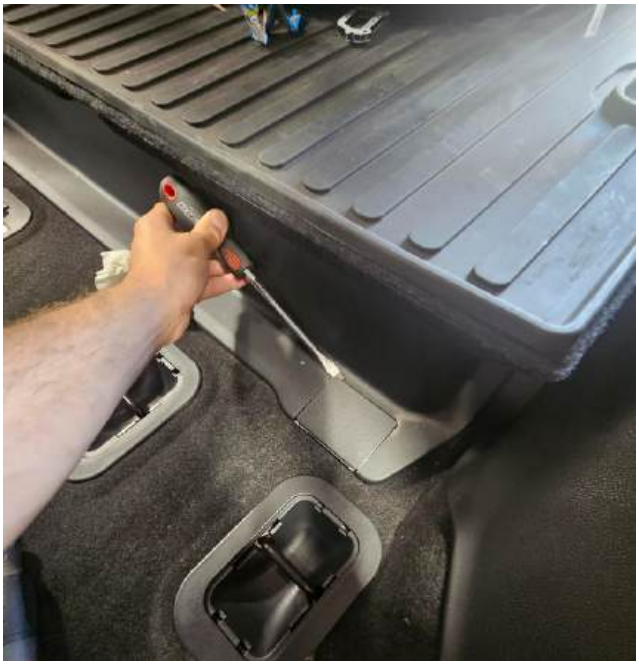


Fig. 23: Flip up plastic cover

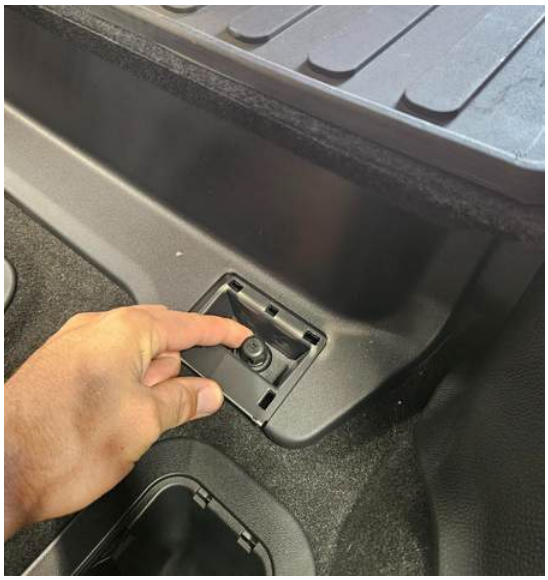


Fig. 24: Unscrew plastic nut



Fig. 25: Lift up plastic trim

25. In the rear left corner of the cargo area, remove the plastic pieces that hide the battery. (Fig. 26 a-d)



Fig. 26 a-d: Remove plastic covers surrounding 12v battery

ECU/IMU INSTALLATION

1. Remove the white plastic wiring mount. (Fig.27)
2. Unplug all 6 electrical connectors from the black box located in front of the shifter (Fig. 27). This black box is called the “Telematics Transceiver Module” (TTM).
3. Remove the two nuts that fasten the TTM to the dashboard. (Fig. 27)
4. Remove the factory brackets from the TTM (Fig. 28). The brackets will not be re-used.
5. Use the factory screws to attach FOX brackets 026-01-426 (Left) and 026-01-427 (Right) to the TTM (Fig. 29a and b).



Fig. 27: Remove factory TTM bracket



Fig. 28: Remove OEM brackets



Fig. 29a: Install FOX bracket



Fig. 29b: Install FOX bracket

6. Attach the FOX ECU (803-02-295) to the FOX ECU bracket (026-01-425) using the provided bolts, washers, and nuts. Torque to 3 ft-lbs. (Fig. 30)
7. Attach the TTM to the other side of the FOX ECU bracket using the same bolts, washers, and nuts. (Fig. 31a and 31b)
8. Use the factory nuts removed in step 3 to install the FOX ECU bracket to the vehicle's dashboard. Torque to OE specification. (Fig. 32)
9. Plug in the main ECU connector to the ECU, and attached the ground ring terminal to one of the nuts attaching the ECU. Torque to 3 ft-lbs. (Fig. 33)



Fig. 30: Attach ECU to bracket





Fig. 31a and 31b: Attach TTM to bracket



Fig. 32: Install assembly to vehicle

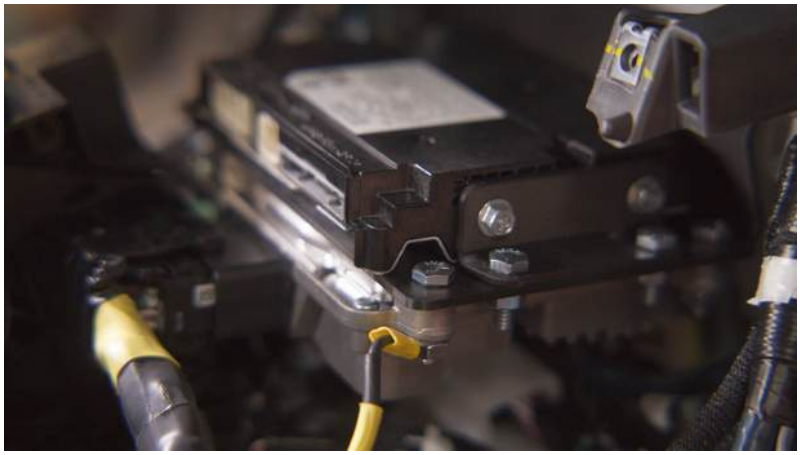


Fig. 33: Plug in wire harness and attach ground terminal

IMU INSTALLATION

1. Secure the IMU (218-02-036) to the IMU bracket (026-01-428). Align the IMU with the PEM studs on the bracket. Use the (2) provided nuts and washers (019-00-030, 019-01-247) to install the IMU onto the bracket. Torque to 70 in-lb.
2. Identify the location under the center console to mount the IMU bracket. Remove the 2 forward bolts holding the center console frame in place. (Fig. 34)
3. Plug in the wiring connector labelled "IMU" (Fig. 35), then place the assembled IMU and bracket over the two holes, and re-install the bolts. Torque to OEM specification.

NOTE: IT IS CRITICAL THAT THE IMU CONNECTOR POINTS TOWARDS THE REAR OF THE VEHICLE WITH CONNECTOR FACING REARWARD. (Fig. 36)



Fig. 34: IMU location.



Fig. 35: Attach IMU to bracket and plug in



Fig. 36: Install IMU and bracket

HARNESS PREPARATION

1. Identify grommet P/Ns 026-01-316 and 026-01-298 (Fig. 37).
2. Modify both grommets as shown below:
    a. 026-01-298 - Cut off the end as shown (Fig. 37).
    b. 026-01-316 – Cut an “X” pattern or circle in the grommet as shown (Fig. 37).

NOTE: Wire branches on the main harness (218-02-121) should be separated/organized as they will exit the vehicle at different locations

3. Place the 026-01-298 grommet inside the 026-01-316 grommet (Fig. 37). Repeat steps 2 and 3 for the other set of grommets.



Fig. 37: Identify grommets

4. Bundle the FLC and RLC branches together and push through an assembled grommet (Fig. 38).
5. Bundle the FRC, RRC, power, ground and ignition branches together and push through the other assembled grommet (Fig. 39).

IMPORTANT: On hybrid models, do not bundle the 12V 5A, 12V 15A, and BATT GND wires through an assembled grommet. They must be routed to the 12v battery in the rear cargo area.



Fig. 38: Bundle the FLC and RLC branches.



Fig. 39: Bundle the FRC, RRC, power, ground and ignition branches, except on hybrid models (see note).

HARNESS INSTALLATION

FOR HYBRID VEHICLES

1. Route the 12V 5A, 12V 15A, GND BATT, IGN, FLC and RLC wires from the center console and under the carpet to the driver footwell area.
2. Locate the OE grommet under carpet on driver side of vehicle. Remove it from the wires, or push it up into the vehicle's body (Fig. 40)
3. Follow the wires passing through the grommet to the frame on exterior of vehicle. Disconnect the electrical connectors and mounts.
4. Push ONLY the IGN, FLC and RLC wires down through the hole. Bundle it with the factory wires and push through the grommet prepared in the previous section. (Fig. 41)
5. Repeat steps 1-4 on passenger side with FRC and RRC wires. (Fig. 42)
6. Re-attach electrical connectors under each grommet exit.

FOR NON-HYBRID VEHICLES

1. Route the IGN, FLC and RLC wires from the center console and under the carpet to the driver footwell area.
2. Locate the OE grommet under carpet on driver side of vehicle. Remove it from the wires, or push it up into the vehicle's body (Fig. 40)
3. Follow the wires passing through the grommet to the frame on exterior of vehicle. Disconnect the electrical connectors and mounts.
4. Push the IGN, FLC and RLC wires down through the hole. Bundle it with the factory wires and push through the grommet prepared in the previous section. (Fig. 41)
5. Repeat steps 1-4 on passenger side with 12V 5A, 12V 15A, GND BATT, FRC and RRC wires. (Fig. 42)
6. Re-attach electrical connectors under each grommet exit.



Fig. 40: Remove connectors and push grommet into vehicle



Fig. 41: Push OEM wires and FOX wires through FOX grommet



Fig. 42: Repeat on other side

FOR HYBRID AND NON-HYBRID VEHICLES

7. Since the "ROTARY" branch on the main harness (218-02-121) is not used in this application, install the 8-pin dust cap (218-02-102) on the "ROTARY" branch 8-pin connector (Fig 43).
8. Connect the CAN harness (218-02-052) to the main harness (218-02-121).
9. The "TOUCHPOINT" branch on the CAN harness (218-02-052) is optional in this application. If you are not hard-wiring your mode selector, install the 4-pin dust cap (218-02-103) on the white 4-pin connector (Fig. 44). If you hard-wire your mode selector, install one end of the 218-02-129 wire to the CAN harness (not included).
10. Coil up the CAN harness (218-02-052) and set it aside. CAN Harness integration is in a later step of this procedure.

NOTE: When routing the harnesses, use the provided zip ties to attach the looms to the existing OE harness paths as often as possible. It is recommended to secure zip ties every 6-8 inches. This will help to avoid damage to parts, such as interference with moving parts, and avoid having too much slack in the sheathing, which can result in friction and wear over time.



Fig. 43: Install 8-pin dust cap

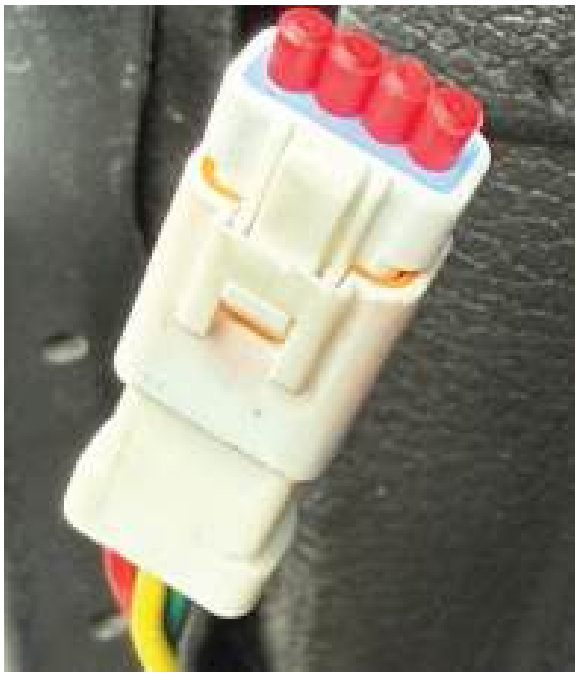


Fig. 44: Install 4-pin dust cap

11. Route the FLC and IGN branches along the driver side frame rail toward the front driver side wheel well. Route as close to the reservoir as possible. Plug the "FLC" shock connector into the front driver side shock (Fig. 45 through Fig. 47). Route the IGN branch up towards the fuse box in the engine bay, near the firewall on the driver side.

⚠ **WARNING:** Wires must be routed and secured in a location where they cannot be damaged by rock strikes or pinching/chafing with the vehicle body and frame. FOX recommends using zip ties to attach wires to the OE wiring where possible.



Fig. 45: Route FLC harness



Fig. 46: Route FLC harness



Fig. 47: Route FLC harness

12. Route the RLC harness branch along the driver side frame rail toward the rear driver side wheel well. Route as close to the reservoir as possible. Plug the "RLC" shock connector into the rear driver side shock (Fig. 48 through Fig. 50).



Fig. 48: Route RLC harness



Fig. 49: Route RLC harness



Fig. 50: Plug RLC connector into shock

13. Route the FRC harness branch, as well as 12V 5A, 12V 15A, and GND_BATT branches for non-hybrid models, along the passenger side frame rail toward the front passenger side wheel well. Route the power and ground cables up into the engine bay by the firewall near the battery. Plug the "FRC" shock connector into the front passenger side shock, routing it as close to the reservoir as possible (Fig. 51 through Fig. 53).



Fig. 51: Route the FRC harness branch, as well as 12V 5A, 12V 15A, and GND_BATT branches for non-hybrid models.



Fig. 52: Route FRC harness, power and ground branches.



Fig. 53: Plug FRC connector into shock.

14. Route the RRC harness branch along the passenger side frame rail toward the rear passenger side wheel well. Route as close to the reservoir as possible. Plug “RRC” shock connector into the rear passenger side shock (Fig. 54 through Fig. 56).



Fig. 54: Route RRC harness branch.



Fig. 55: Route RRC harness branch



Fig. 56: Plug RRC connector into shock

15. On non-hybrid vehicles, connect the "12V 5A" and "12V 15A" ring terminals to the positive terminal of the battery, and the "GND_BATT" ring terminal to the ground terminal of the battery in the engine bay (Fig. 57).

NOTE: Steps 16-18 are for hybrid models only

16. Route the 12V 5A, 12V 15A, and GND_BATT wires under the carpet to the driver door sill, following the OEM wiring (Fig. 58).



Fig. 57: Connect "12V 5A" and "12V 15A" ring terminals to positive terminal and "GND_BATT" ring terminal to ground terminal.



Fig. 58: On hybrid models, route power and ground along door driver sills

17. Run the wires rearward under the plastic trim that is next to the driver rear seat to the battery compartment (Fig. 60 and 61) .
18. Connect the “12V 5A” and “12V 15A” ring terminals to the positive terminal of the battery, and the “GND_BATT” ring terminal to the ground terminal of the battery. Place the fuse block “tree” connector in the hole as shown (Fig. 62).



Fig. 60: Run power and ground under rear seat



Fig. 61: Tuck power and ground under plastic

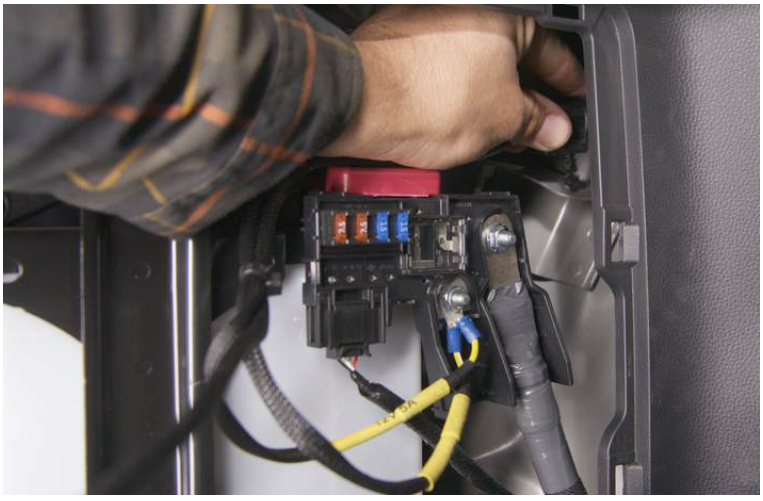


Fig. 62: Attach power and ground to battery. Secure fuse box

MODE SELECTOR INSTALLATION

NOTE: The Mode selector is wireless and can be mounted anywhere you choose, or not mounted at all! This section shows a suggested mounting location for the mode selector.

1. Mock up the mode selector location with the provided RAM mount.
2. Mark the RAM mount holes for drilling. (Fig. 63)
3. With the center console still disassembled, remove the screw holding the bottom of the power button plastic trim panel. Pull straight out on the panel to release the clips. (Fig. 64)
4. Drill holes at the previously marked locations. (Fig. 65)



Fig. 63: Mock up and mark holes


Fig. 64: Remove power button panel


Fig. 65: Drill holes

5. Install the RAM base using provided hardware. (Fig. 66)
6. Re-install the panel and mount the mode selector. (Fig. 67)



Fig. 66: Install screws



Fig. 67: Mounted mode selector

FUSE TAP INSTALLATION

1. Remove the fuse box cover on the driver side of the engine bay.
2. Remove the 7.5A "EDU NO.4" low-profile mini fuse from slot # F5. This location can be verified using the diagram on your fuse box cover (Fig. 68).
3. Place this 7.5A fuse into the lower slot on the fuse tap (Fig. 69).
4. Place the provided 3A or 5A fuse into the upper slot (Fig. 69).
5. Assemble the fuse tap into the fuse box slot #F5 (Fig. 68) as shown. Reassemble the fuse box cover.

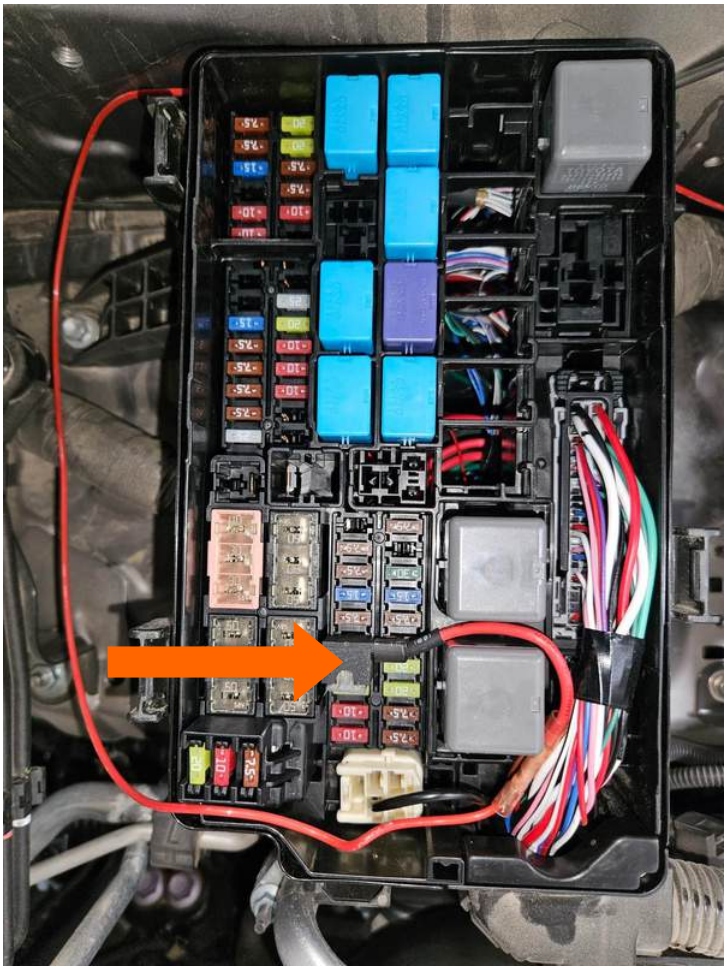


Fig. 68: Fuse location



Fig. 69: Assemble and insert fuse tap

VEHICLE CAN INTEGRATION

1. Locate the CAN harness that was coiled up previously. Uncoil the harness.
2. Coil up the TOUCHPOINT branch of the CAN harness and secure it out of the way. It will remain in this location when installation is complete.
3. Route the CAN2_VEH harness branch through the center console, past the shifter, and into the area underneath the HVAC controls, behind the wireless charging trim.
4. Zip tie the FOX harnesses inside the cab to consolidate wiring.
5. Zip tie around the grommets on the exterior of the vehicle to secure the harness.
6. Locate the telematics transceiver module underneath the HVAC controls. (Fig. 70)

NOTE: This image shows the CAN reader installed already.

7. Identify the gray 34-pin connector on the far-right side of the module (Fig. 71)



Fig. 70: Telematics transceiver module

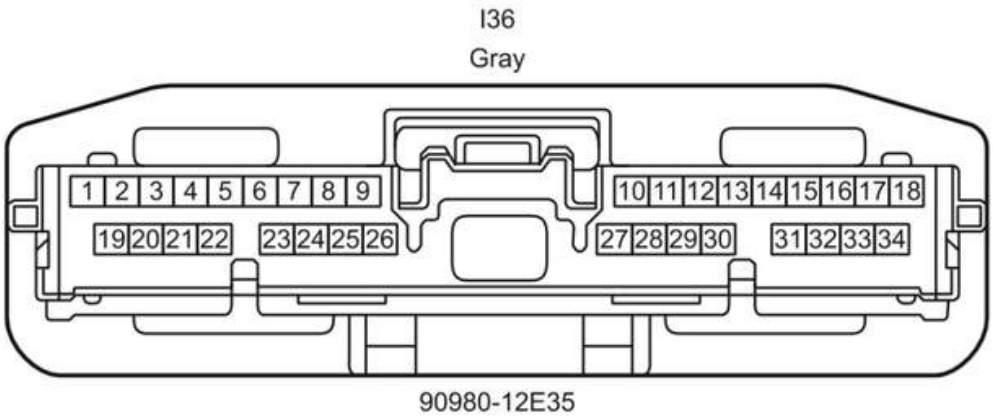


Fig. 71: 34 pin connector pin layout

NOTICE: DO NOT CUT any wires. The provided CAN signal reader clamps onto existing wires.

8. Carefully identify the following wires (Fig. 72):
    a. Pin # 28 (Grey) is CAN High
    b. Pin # 27 (White) is CAN Low
9. Peel back the sleeving/tape on the OE harness to expose approximately 3 inches of wire behind this connector.
10. Use a small Phillips head screwdriver to remove the two screws holding the cover on the back of the provided contactless CAN reader (218-02-068).
11. Place the grey wire from Pin # 28 on the OE connector in the CAN High slot on the CAN reader (Fig. 73).
12. Place the white wire from Pin # 27 on the OE connector in the CAN Low slot on the CAN reader (Fig. 73).
13. Reinstall the two screws and the cover of the CAN reader (218-02-068), ensuring the wires stay in place. The cover and the base must be assembled properly, with CAN HI and CAN LO labels matching.
14. Route the 4-pin white CAN2_VEH connector from the 218-02-052 CAN harness to the CAN reader and connect it.
15. Bundle up the excess wire from the CAN2_VEH branch of the 218-02-052 CAN harness and secure it in the dash.



Fig. 72: Installed CAN reader

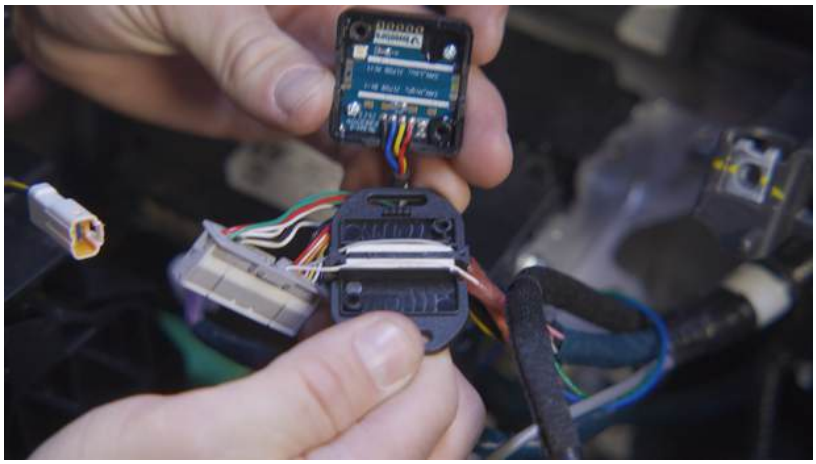


Fig. 73: Place wires into dissassembled CAN reader

16. Before fully re-assembling the vehicle's interior, re-connect the battery and turn the vehicle's ignition to "on" and verify that the CAN reader's light shows green. If it shows any other color, check the troubleshooting section of the back of this guide. (Fig. 74)

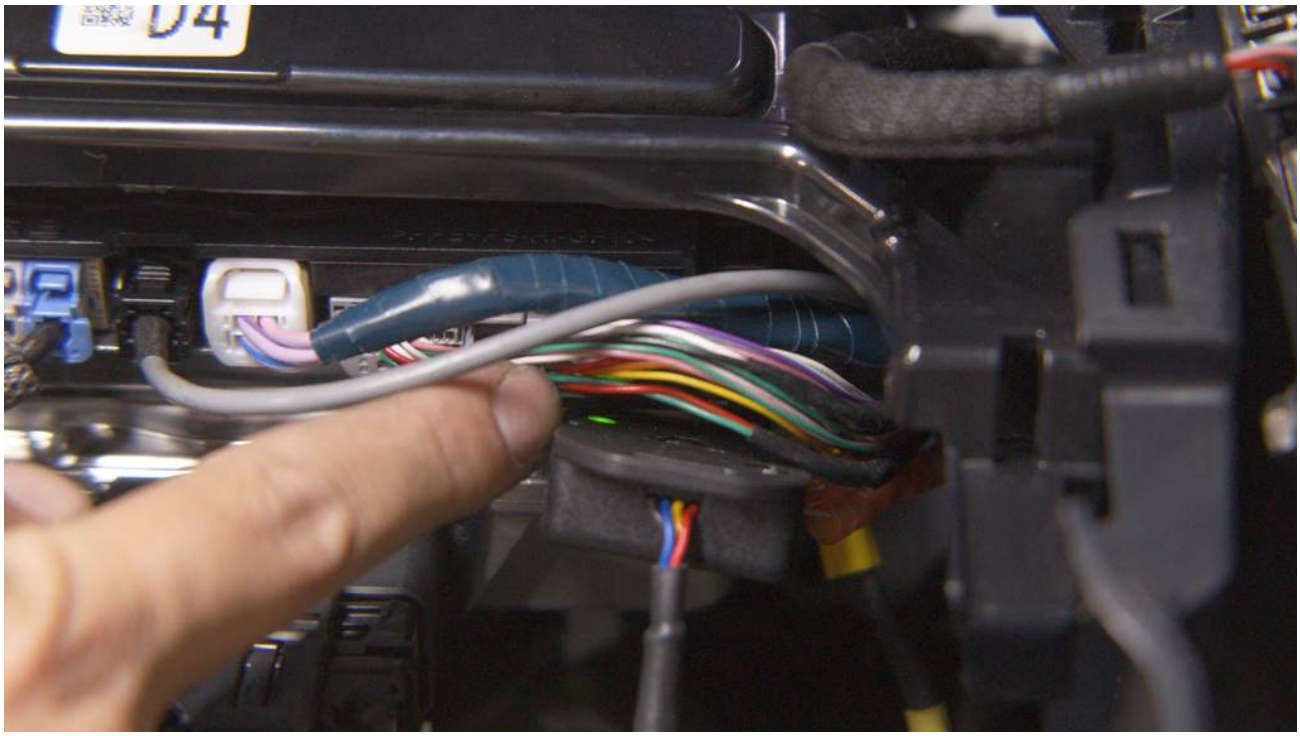


Fig. 74: Green light on CAN reader

VEHICLE REASSEMBLY

1. Ensure all wires/harnesses are secured and out of the way.
2. Secure the carpet back in place (if removed).
3. Reinstall the interior trim and reconnect all OE connectors in reverse order.
4. Place the seat in the vehicle and re-connect the electrical connectors.
5. Ensure ground cable on battery is secured. Torque to OEM specification.
6. Install the seat mounting bolts. Torque to OE specification.
7. Torque all bolts/nuts to OE specification.

CONTACTLESS CAN READER TROUBLESHOOTING

When troubleshooting the Contactless CAN Reader installation or LED status, verify that the CAN High and CAN Low wires are positioned in the correct grooves on the inside of the cover (refer to Fig 75).

Ensure the cover is installed in the correct orientation, with the small round lens in the cover aligned directly over the LED on the main housing. The keyed grooves in the cover shall also align with the four wires exiting the main CAN Reader housing. (Fig. 76)

Use the LED indicator visible through the back of the CAN Reader cover, along with the table below, to diagnose CAN Reader status-related issues (Fig. 76)



Fig. 75: Pay attention to where the grooves and clear LED plastic cover are on the cover compared to the housing

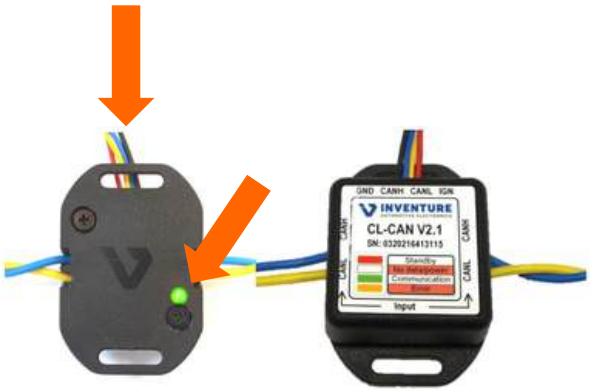


Fig. 76: reference the Contactless CAN Reader Troubleshooting & Status Table. Note where the harness is coming out of relative to LED location



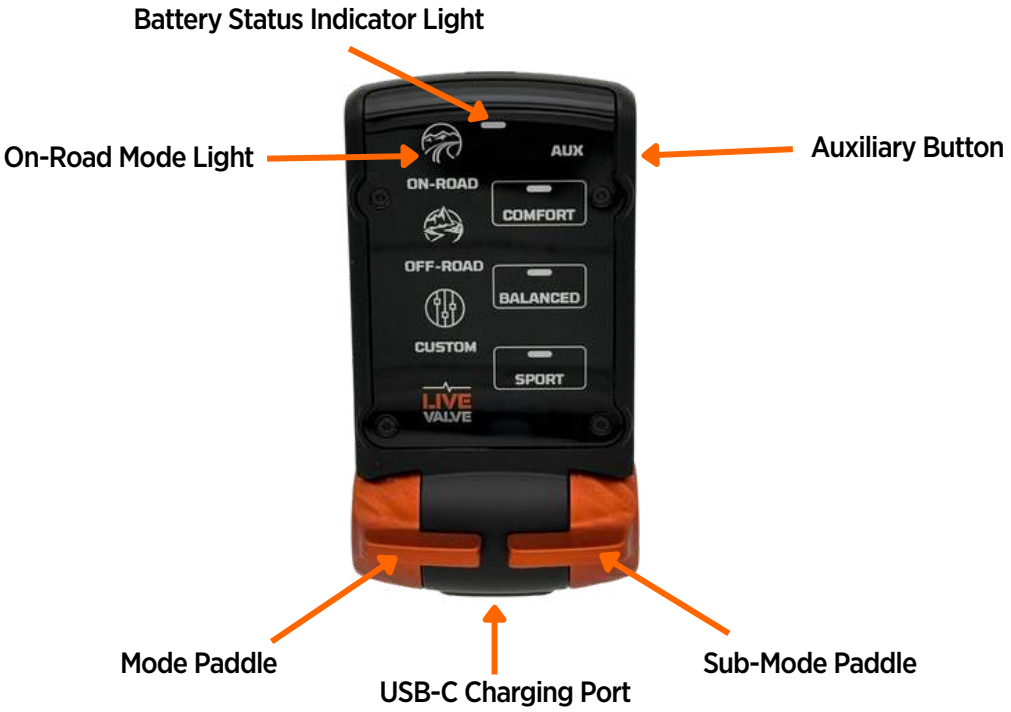
Fig. 77: housing, whole assembly

Use the LED color or blink pattern to confirm normal operation or identify the likely installation issue

Status LED	Operating State	What it Means	Customer Check / Action
Green	**Communication active**	The reader is powered and detecting active CAN communication.	Normal operation. Confirm the connected controller or vehicle system is receiving and responding to the expected CAN data.
Red	**Standby**	The reader is powered, but no CAN communication has been detected for at least 2 seconds. This may also occur immediately after power is applied.	Turn ignition ON or wake the vehicle network. If it stays red while CAN should be active, verify the CAN-H/CAN-L wire locations and that the selected wires carry active CAN data.
No Light	**No communication or no power**	The LED may be off briefly before standby. A continuously unlit LED may indicate no power or incorrect supply polarity.	Check reader power and ground. Confirm supply voltage and polarity are correct. If power is correct, verify that the vehicle CAN network is active.
Orange	**CAN polarity error**	CAN-H and CAN-L are reversed at the reader input.	Turn ignition OFF. Verify CAN-H and CAN-L are routed through the matching grooves, then reinstall the cover and repeat the check.
Blinking Orange / Green	**Overtemperature with communication**	Internal temperature is above approximately 85°C, but CAN communication is still detected.	Allow the reader to cool. Move it away from heat sources. Inspect output wiring for short circuits, excessive bus load, or incorrect/multiple terminating resistors.
Blinking Orange / Red	**Overtemperature without communication**	Internal temperature is above approximately 85°C and CAN communication is not detected.	Turn the system OFF and allow the reader to cool. Inspect installation location, CAN wire position, output wiring, bus loading, and terminating resistance before restoring power.

MODE SELECTOR AND MOBILE APP

1. BASIC OPERATION



POWER ON

Press and release the auxiliary button located on the top-right corner of the mode selector to turn the device on.

POWER OFF

Press and hold the auxiliary button for approximately 5 seconds to turn the device off.

MODE SELECTION

- Left Paddle (Mode): Press UP or DOWN to cycle between ON-ROAD, OFF-ROAD, and CUSTOM modes.
- Right Paddle (Sub-Mode): Press UP or DOWN to select COMFORT, BALANCED, or SPORT within ON-ROAD and OFF-ROAD modes.

FACTORY RESET

To clear the vehicle connection and restore factory settings: With the mode selector powered on, simultaneously hold the left paddle DOWN and right paddle UP until the ON-ROAD mode indicator changes color (approximately 10 seconds).

2. STATUS INDICATORS

MODE SELECTOR CONNECTIVITY STATUS

Scanning (Not Paired)	In Pairing Mode	Vehicle Found (While Pairing)	Updating Firmware	Connected	System Error
					
Flashing Yellow (On Startup)	Flashing Blue	Flashing Green (Briefly)	Solid Light Blue (Briefly)	Normal User Interface	Flashing Red

SYSTEM ERROR INDICATOR

NOTE: A flashing red backlight while connected to your vehicle indicates a system error (for example, a disconnected shock). Open the FOX mobile app while connected for diagnostic information.

MODE SELECTOR BATTERY STATUS

The battery status indicator light is centered at the top of the device.

Fully Charged	Charging In Process	Normal Battery Level (Not Charging)	Low Battery (Charge Required)
			
Solid Green	Flashing Green	Off	Flashing Red

3. PAIRING PROCEDURES

The Mode Selector and a mobile phone both need to be paired to the FOX ECU. Putting the ECU into pairing mode comes first, no matter which device you're pairing. This section covers, in order:

1. Putting the ECU into pairing mode
2. Pairing the mode selector to the ECU
3. Pairing a mobile phone to the ECU via the FOX Connect App

(Step 1 is required before pairing either device. Step 2 is typically completed at the Factory. See next pages for more detail.)

3.1 Putting the ECU into Pairing Mode

The ECU must be in pairing mode before pairing either device. Try Option 1 only if the mode selector is already paired to this vehicle; otherwise use Option 2 for your vehicle make. Pairing mode times out automatically after a phone pairs, the ignition is toggled, or 5 minutes of inactivity.

How You'll Know It Worked

This depends on how the wireless mode selector is setup:

- Charging port only, or unplugged: all mode selector LEDs turn OFF when the ECU enters pairing mode.
- FOX USB-C adapter harness (into the FOX factory CAN harness): the mode selector is receiving data, not just power. LEDs stay on and the AUX button turns solid BLUE, indicating ECU is in pairing mode.

Reference the next 3 pages for more help putting the ECU into pairing mode.

Find the right option for your vehicle:

Situation / Vehicle Make	Use
Mode Selector must already be paired to the vehicle. See below for additional detail.	Option 1
Ford	Option 2.1
Jeep, Lexus, Toyota	Option 2.2
Chevrolet / GM (1500)	Option 2.3

Option 1: Via the Mode Selector

Your Live Valve kit may include a feature that allows the ECU to enter pairing mode using the Mode Selector. Turn the vehicle and mode selector ON. Hold the right (Sub-Mode) paddle UP for 3–5 seconds. If the AUX LED turns blue, the ECU is in pairing mode.
If the AUX LED does not turn blue after 5 seconds, proceed to Option 2 below to enter pairing mode using the Ignition Sequence.

Option 2: Via the Ignition Sequence

Uses your vehicle's ignition sequence instead of the mode selector. Keep the engine OFF throughout. Use this if Option 1 isn't available, or the very first time you pair a mode selector to this vehicle. Select the procedure for your make below.

Option 2.1: Ford, Toyota (Hybrids Only), Lexus (Hybrids Only)

Keep the engine OFF throughout this procedure.

1. Ignition OFF, driver's door open.
2. Wait 60 seconds.
3. Foot off the brake, press and release START/STOP button 7 times:
   OFF → ON → OFF → ON → OFF → ON → OFF → ON.
   This gives the ECU four ignition-ON events, which enables pairing mode.
4. Leave the ignition in ON/RUN
5. Proceed to section 3.2 or 3.3, to pair a device



NOTE: Repeat this procedure each time you pair a new phone or mode selector.

Option 2.2: Jeep, Lexus (Non-Hybrids), Toyota (Non-Hybrids)

Keep the engine OFF throughout this procedure.

1. Ignition OFF, driver's door open.
2. Wait 60 seconds.
3. Foot off the brake, press and release START/STOP button 11 times:
   OFF → ACC → ON → OFF → ACC → ON → OFF → ACC → ON → OFF → ACC → ON.
   This gives the ECU four ignition-ON events, which enables Bluetooth pairing mode.
4. Leave the ignition ON.
5. Proceed to section 3.2 or 3.3, to pair a device



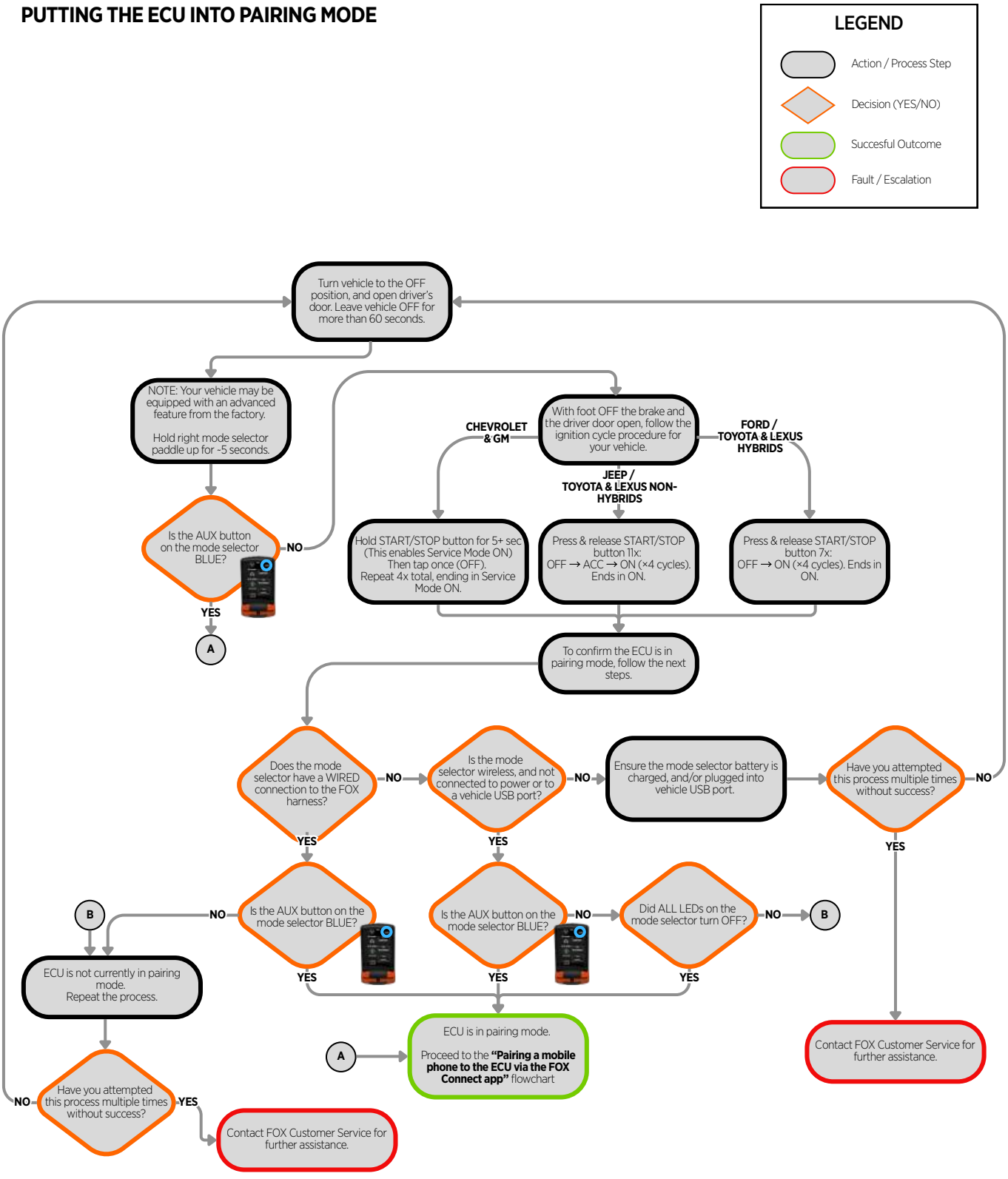
Option 2.3: Chevrolet, GM

Keep the engine OFF throughout this procedure.

1. Ignition OFF, driver's door open.
2. Wait 60 seconds.
3. Truck OFF, foot off the brake: hold START/STOP button for 5+ seconds (Service Mode ON), then tap it once (OFF). Repeat this hold-then-tap 4 times total. Stop after the 4th hold, leaving it in Service Mode ON.
4. Proceed to section 3.2 or 3.3, to pair a device



PUTTING THE ECU INTO PAIRING MODE



3.2 Pairing the Mode Selector to the ECU

NOTE: The Mode Selector normally arrives pre-paired from the Factory. Only use this procedure if the ON-ROAD icon flashes yellow continuously when the Mode Selector powers up with the vehicle ON. This means it isn't yet paired.

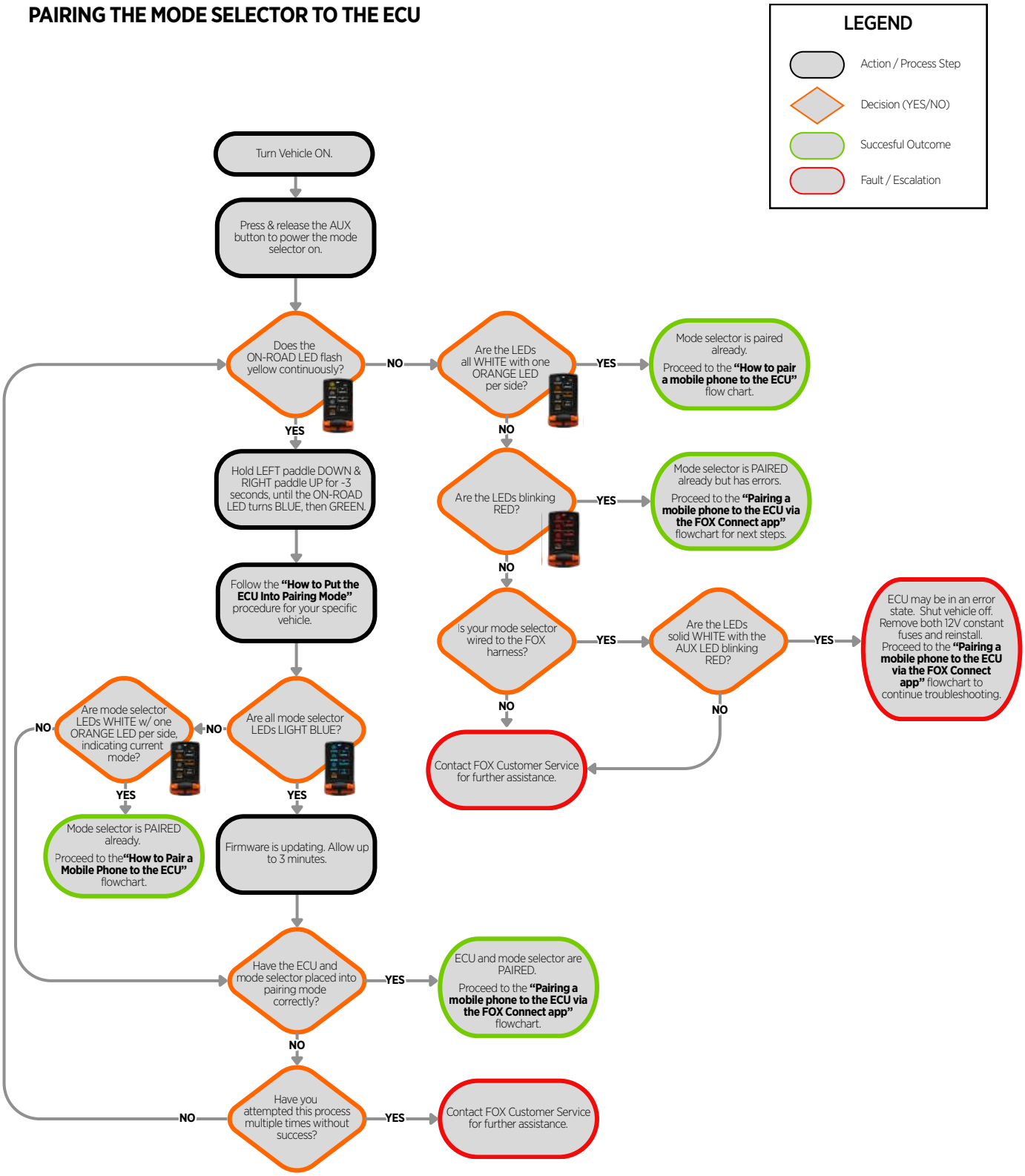
If it isn't paired, first put the ECU into pairing mode using the ignition sequence for your vehicle (Section 3.1, Option 2.1, 2.2, or 2.3). The mode selector paddle shortcut (Option 1) won't work yet as it requires a mode selector that's already paired.

1. Put the ECU into pairing mode (Section 3.1, Option 2.1, 2.2, or 2.3).
2. Press and release the auxiliary button to power on the Mode Selector.
3. Hold the left (Mode) paddle DOWN and right (Sub-Mode) paddle UP together until the ON-ROAD indicator turns blue (~3 seconds).
4. Confirm: ON-ROAD blinks yellow, then dark blue, then green. All indicators turn white when ready, with one orange indicator per side showing the current mode.

TIP: Pair the Mode Selector before pairing a phone. See Section 3.1 for how the mode selector shows the ECU is in pairing mode.

Reference the next page for more help pairing the mode selector to the ECU

PAIRING THE MODE SELECTOR TO THE ECU



PAIRING A MOBILE PHONE TO THE ECU VIA THE FOX CONNECT APP

Step 1: Download the FOX CONNECT Mobile App

The FOX mobile app is available free of charge on the Google Play Store and iOS App Store.

GET IT ON Google Play

Download on the App Store

Step 2: Create an Account

For full functionality, enable the following services during setup:

- **Location Services:** Enables GPS-based features
- **Notifications:** Enables system alerts and updates
- **Bluetooth:** Required for ECU communication

These services enable vehicle communication for diagnostics, tuning, and performance metrics.

Step 3: Pair Your Vehicle

1. Ensure the ECU is in pairing mode.
2. With the ECU in pairing mode, tap "PAIR NEW" in the mobile app garage.
3. When your vehicle appears, tap to add it to your garage.
4. Once paired, this procedure does not need to be repeated for this device.
5. Start your engine.
6. In the app garage, tap your vehicle and select "CONNECT" to begin.

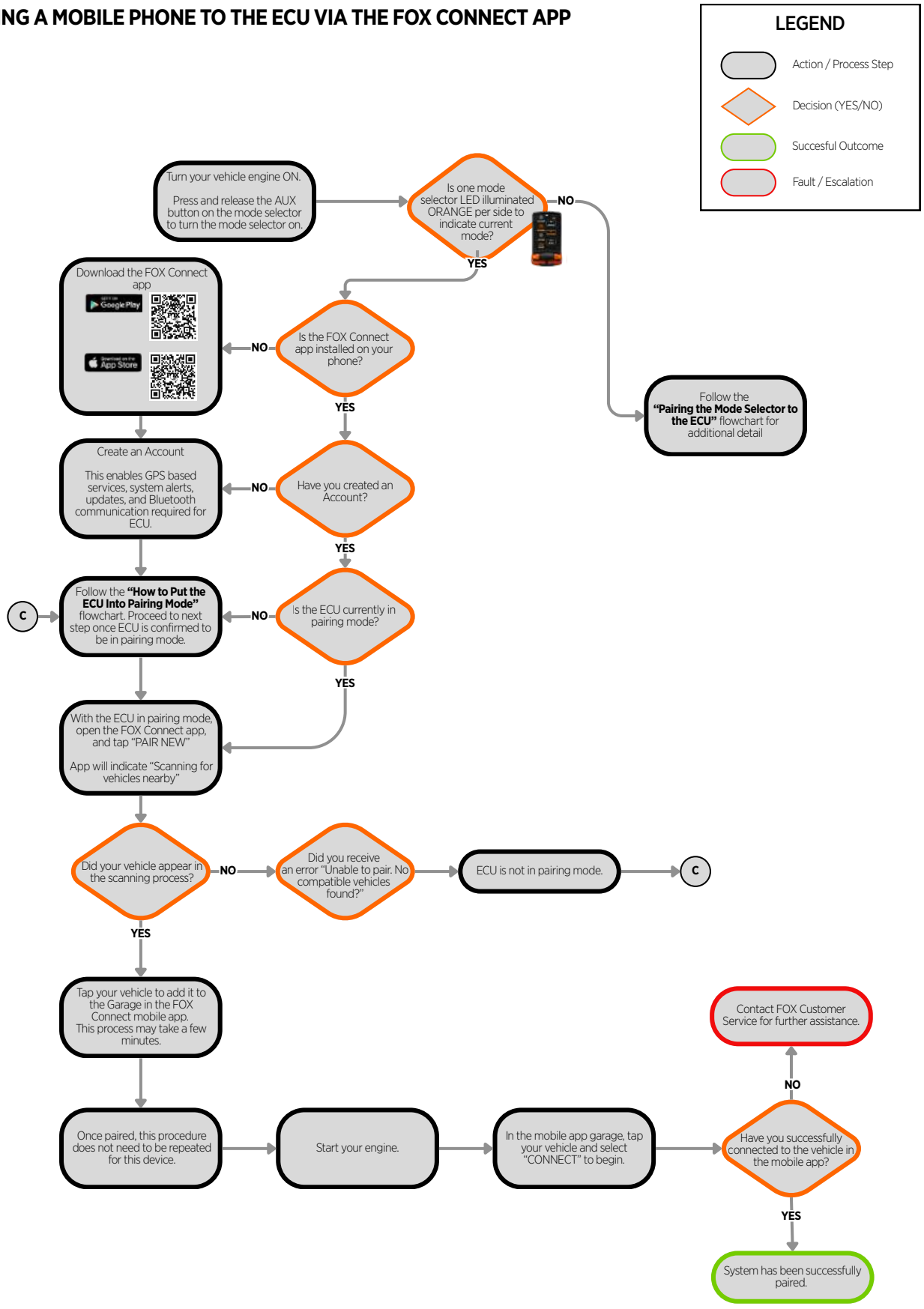
Troubleshooting: Pairing Errors

If you see "UNABLE TO PAIR. No compatible vehicles found," the ECU is not in pairing mode. Re-enter pairing mode using the procedure in Section 3, then tap "SCAN" in the app to retry.

Enjoy the FOX app and take control of your vehicle to the next level.

- Record your rides for optimal performance of your vehicle.
- Select and monitor real-time performance between multiple terrain modes.
- Enjoy live suspension telemetry, as well as ongoing features and improvements that are available through over-the-air updates.

PAIRING A MOBILE PHONE TO THE ECU VIA THE FOX CONNECT APP

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COMFORT
BALANCED
SPORT
BRONCO 4DR
Connected
REC

MAINTENANCE AND WARRANTY INFORMATION

PROPER INSPECTION AND MAINTENANCE IS ESSENTIAL TO MAINTAIN THE PERFORMANCE AND RELIABILITY OF YOUR SHOCK ABSORBERS.

To avoid corrosion, you should keep the shocks and springs clean, free of dirt and moisture. The wiper seal will clean deposits from the shaft, but the shock won't necessarily fully compress every time. This means you could accumulate dirt at the bottom of the shaft and underneath the jounce bumper. Make sure you clean these areas completely to prevent shaft corrosion. Avoid using a high-pressure washer near the shaft seals or adjusters, as this could drive dirt inside the shock.

Make sure the ends of the spring and shock threads are clean and free of dirt before adjusting the preload ring. This will make the adjustment easier and reduce wear.

Ideally, the shocks should be clean around the adjusters. Use a small amount of contact cleaner before making adjustments will keep these parts clean and operating smoothly for years.

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